APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,538	09/26/2001	Guy Riddle	6533/53640	4598

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EXAMINER
WU, QING YUAN

ART UNIT	PAPER NUMBER
2194	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/21/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	09/966,538	RIDDLE, GUY
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5, 7-18 and 20-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-18 and 20-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-5, 7-18 and 20-27 are pending in the application.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
requirements of this title.

4.   Claims 1-5, 7, 8-10 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

5.   Claims 1, 8 and 10 are apparatus claims directed to software alone without claiming

associated computer hardware required for execution. Claims 2-5, 7 and 9 are dependent claims

of claims 1 and 8 and do not support the hardware requirement for the apparatus of claims 1, 8

and 10, therefore they are rejected for the same reason. The following link on the World Wide

Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf>

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   Claims 1-5, 7-9, 10 and 20-25 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

a.   The following terms lacks antecedent basis:

i.   Claim 8 - the attributes of the dynamic partition object associated with the

new data flow, lines 26-27.

b.   The following claim language is indefinite:

i.   As per claim 1, it is uncertain whether "the at least one dynamic partition"

on line 6 refers to "at least one dynamic partition object" on line 4 (i.e. if they are

the same then "said" or "the" should be used and "the at least one dynamic

partition object" must be used throughout all the claims). For examination

purposes, they will be treated as the same.

ii.   As per claim 8, it is uncertain whether "the data flow" on line 19 refers to

"a new data flow" on line 19 that "the new data flow" on lines 21-22 is referring

to (i.e. if they are the same then "said" or "the" should be used and "the new data flow" must be used throughout all the claims). For examination purposes, they will be treated as the same.

iii.   As to claim 20, it is uncertain how a "user partition" can be a "child partition" of a corresponding "dynamic partition object" (i.e. Applicant should consider clarifying the differences between a "partition" and "partition object" rather than using them interchangeably. More specifically, to the examiner's understanding, a partition object is defined in a partition object space to represent a partition and not the actual partition itself [specification, pg. 7, lines 15-17]). For examination purposes, they will all be treated as objects. Claims 10 and 25 are rejected for the same reason.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 10-11, 13-14, 17-18, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (U.S. Patent 6,154,776), in view of Aune (U.S. Patent 6,952,735) and further in view of Park (U.S. Patent 6,546,415).

10.   Martin was cited in the last office action.

11.   As to claim 11, Martin teaches the invention substantially as claimed including a

computer implemented method allowing dynamic allocation of a network resource, the method

comprising the steps of:

recognizing a new user of a network resource based on one or more attributes of at least

one packet in a data flow [Martin, abstract; col. 3, lines 35-38; col. 3, line 60-col. 4, line 5 and

lines 52-56];

creating a user partition on demand for the new user, wherein the user partition is

operable to allocate utilization of the network resource, according to an attribute across all data

flows corresponding to the new user [Martin, col. 2, lines 7-13 and 17-20; col. 4, lines 13-32;

col. 10, line 4].

12.   Martin does not specifically teach user partition allocations of the network resource

within the first allocation across all data flows corresponding to the at least one dynamic

partition and disposing of the user partition when no longer needed. However, Martin disclosed

resource limitation [Martin, col. 3, line 11]. In addition, Aune teaches allocation of addresses by

users from a local IP-pool/block that can dynamically adjusted and releasing addresses that has

not been use for a long time [Aune, col. 2, lines 62-64; col. 3, lines 8-30].

13.   It would have been obvious to one of an ordinary skill in the art at the time the invention

was made, to have combined the teaching of Martin with the teaching of Aune because the

teaching of Aune would further enhance the resource management mechanism of Martin by

releasing unused resources due to resource limitation as being considered by Martin.

14.   Furthermore, Martin does not specifically teach accessing a memory space comprising a

plurality of partition objects. However, Park teaches a management information bases (MIBs)

that are implemented as hierarchical file systems, comprised of a tree of file-like objects that

provide access to each resource, a network management system that allocates network resources

and obtaining information from the distributed MIB namespace [Park, abstract; col. 1, lines 31-

32; col. 3, lines 28-31 and 39-45].

15.   It would have been obvious to one of an ordinary skill in the art at the time the invention

was made, to have combined the teaching of Martin with the teaching of Park because the

teaching of Park would further enhance the resource management mechanism of Martin by

providing an improved management system for distributed computing environment [Park, col. 4,

lines 16-25].

16.   As to claim 13, Martin as modified teaches the invention substantially as claimed

including wherein receiving a set of parameters defining a dynamic partition object [Martin, col.

2, lines 21-29; col. 3, lines 46-65; col. 9, lines 20-23].

17.   As to claim 14, Martin as modified teaches the invention substantially as claimed

including wherein the user partition object is configurable based on a characteristic of the user's

utilization of the network resource [Aune, col. 3, lines 20-23].

18.   As to claim 17, Martin as modified does not specifically teach wherein the user partition

object is implemented by class-based weighted fair queuing (hereafter CBWFQ) functionality.

However, CBWFQ is well known in the art to characterized and handle different traffic classes.

19.   As to claim 18, Martin as modified does not specifically teach wherein the user partition

object is implemented by committed access rate functionality (hereafter CAR). However, Martin

disclosed Quality of Service [Martin, abstract], in addition the functionality of rate limiting in

bandwidth management is well known in the art.

20.   As to claim 10, this claim is rejected for the same reason as claim 11 above. In addition,

Martin as modified teaches a partition management module operative to dynamically create user

partition objects [Martin, col. 4, lines 13-29]; and,

        a partitioning mechanism operative to enforce the partitions to control access to a

network resource among a plurality of users [Martin, col. 5, lines 64-66].

21.   As to claim 26, this claim is rejected for the same reason as claims 10-11, and 13 above.

In addition, Martin as modified teaches identifying a dynamic partition object based on a traffic

classification associated with the data flow [Martin, col. 11, lines 50-56].

22.   Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin,

Aune and Park as applied to claim 11 above, in view of Applicant Admitted Prior Art (hereafter

AAPA).

23.   As to claims 15-16, Martin, Aune and Park do not specifically teach wherein the user

partition object is operable to provide a minimum allocation of the network resource to the new

user, and limit utilization of the network resource. However, Martin disclosed Quality of Service

[Martin, abstract]. However, AAPA teaches partitioning bandwidth in which partitions ensure a

minimum and/or cap bandwidth to a particular class of traffic such as data flows involving a

specific user [AAPA, pg. 4, lines 13-20].

24.   It would have been obvious to one of an ordinary skill in the art at the time the invention

was made, to have combined the teaching of Martin, Aune and Park with the teaching of AAPA

because the teaching of AAPA would improve the teaching of Martin, Aune and Park by

providing specific limitation to resource usage/allocation.

25.   Claims 1-5, 7-9, 12, 20-22, 25, and 27 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Martin, Aune and Park as applied to claims 10, 11 and 26 above, in view of

Eisler et al (hereafter Eisler) (U.S. Patent 6,128,713).

26.   Eisler was cited in the last office action.

27.   As to claim 12, Martin, Aune and Park do not specifically teach wherein the disposing

step comprises the steps of reclaiming the partition object for a subsequent new user if the

partition object is inactive. However, Aune disclosed releasing addresses that have not been use

for a long time [Aune, col. 3, lines 8-26]. In addition, Eisler teaches freeing up memory based

on least recently used algorithm [Eisler, col. 4, lines 61-64; col. 14, lines 24-29]. It would have

been obvious to one of an ordinary skill in the art at the time the invention was made, to have

combined the teaching of Martin, Aune, Park and Eisler because the teaching of Eisler would

allow more efficient re-used of resources by reallocating least active used resource for

subsequent uses.

28.   As to claim 20, this claim is rejected for the same reason as claims 11 and 12 above.

29.   As to claim 21, this claim is rejected for the same reason as claim 20 above. In addition,

Martin, Aune, Park and Eisler teach reclaiming partition when necessary [Eisler, col. 14, lines

30-33].

30.   As to claim 22, this claim is rejected for the same reason as claim 21 above.

31.   As to claim 25, this claim is rejected for the same reason as claim 21 above. In addition,

Martin, Aune, Park and Eisler teach monitoring use of the user partition objects [Martin, col. 9,

lines 9-16; Aune, col. 3, lines 8-26].

32.   As to claim 27, this claim is rejected for the same reason as claim 12 above.

33.   As to claim 1, this claim is rejected for the same reason as claims 10-11, and 25 above.

34.   As to claims 2-5, these are apparatus claims for performing the method claims 12 and 21.

Therefore, they are rejected for the same reason as claims 12 and 21 above.

35.   As to claim 7, this claim is rejected for the same reason as claim 1 above.

36.   As to claims 8-9, these claims are rejected for the same reason as claims 1-2 and 26

above.

37.   Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin,

Aune, Park and Eisler as applied to claims 13 and 20 above, further in view of Gold et al

(hereafter Gold) (U.S. PG Pub 20020194326).

38.   Gold was cited in the last office action.

39.   As to claim 23, this claim is rejected for the same reason as claim 13 above. In addition, Martin, Aune, Park and Eisler do not specifically teach receiving a partition cap parameter defining a desired limit on the number of user partitions; and wherein the creating step is conditioned on the number of existing user partitions not exceeding the partition cap. However, Gold teaches preventing too many users from consuming a resource by limiting the number of user access [Gold, pg. 1, paragraph 8, lines 9-14; pg. 1, paragraph 9; pg. 3, paragraph 50, lines 4-14]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have combined the teaching of Martin, Aune, Park and Eisler with the teaching of Gold because the teaching of Gold guarantee that the number of users/requests will not exhaust the limited among of resources available.

40.   As to claim 24, Martin, Aune, Park, Eisler and Gold do not teach defining an overflow partition; and assigning new users to the overflow partition, if the number of user partitions exceeds the partition cap. However, Gold disclosed when new user capacity limit is exceeded, temporarily allowing a new user onto the computer entity [Gold, pg. 5, paragraph 73]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to assign new user exceeding the cap separately rather than rejecting the new user until there is enough resource for a guarantee quality of service.

Response to Arguments

41.   Applicant's arguments filed 11/13/06 have been fully considered but they are not

persuasive.

42.   In the remarks, Applicant argued in substance that:

    a.   Martin-Aune-Park combination failed to teach a first allocation of a network

resource across all data flows corresponding to the at least one dynamic partition.

    b.   Neither Aune nor Martin disclose dynamically creating user partition object.

    c.   Examiner alleges that QoS definitions in Martin are "user partition objects" and

then alleges that they are "dynamic partition objects" as applied to claims 8 and 26.

    d.   The Martin-Aune-Park combination is improper; One of ordinary skill in the art

would have not motivation to combine the teachings Martin-Aune-Park; The Office is

using hindsight to combine the teachings of Martin-Aune-Park.

    e.   Martin does not teach that QoS definitions establish reservations or allocations of

data flows in a manner that would require them to be released for other data flows.

    f.   Gold fails to teach limitation of claims 23-24.

43.   Examiner respectfully traversed Applicant's remarks:

44.   As to point (a), Aune teaches a dynamically adjustable size of a pool/block of IP

addresses (dynamic partition, attribute defining a first allocation of network resources) based on

traffics generated (all data flows corresponding to the at least one dynamic partition) [col. 3,

lines 17-23]. More specifically, the traffics generated by subscribers using the particular

processor with the allocated pool of IP addresses will be all the data flows corresponding to the

allocated pool of IP addresses, therefore applicant's limitation was met. In addition, applicant

merely argued that the mapping of the examiner is not (equivalent to) the applicant's limitation

but failed to explained why the mappings of Aune do not read on the limitation. Therefore the

argument is not persuasive.

45.   As to point (b), the limitation was reject as a combination with Park, not Martin and

Aune. Applicant argues the patentability of various claims by individually addressing the

reference used to reject the claims. Applicant cannot show nonobviousness by attacking the

references individually where, as here, the rejection is based on a combination of references. See

In re Keller, 208 USPQ 871 (CCPA 1981).

46.   As to point (c), since claim 26 is rejected for the same reason as claims 10-11 and 13,

and the reasons for modification/combination of Martin, Aune and Park was previously satisfied.

In addition, applicant's claim 26 does not preclude the situation where the second attribute/user

partition allocations of the network resource within the first allocation is the entire first

allocation. If the situation is true, then the user partition is the dynamic partition.

47.   As to point (d), in response to applicant's argument that the examiner's conclusion of

obviousness is based upon improper hindsight reasoning, it must be recognized that any

judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight

reasoning. But so long as it takes into account only knowledge which was within the level of

ordinary skill at the time the claimed invention was made, and does not include knowledge

gleaned only from the applicant's disclosure, such a combination is proper.

48.   As to point (e), Martin disclosed resource limitation [Martin, col. 3, line 11]. In addition,

Aune teaches releasing addresses (resources) that has not been use for a long time for other use

[Aune, col. 2, lines 62-64; col. 3, lines 8-30]. It would have been obvious to one of an ordinary

skill in the art at the time the invention was made, to have combined the teaching of Martin with

the teaching of Aune because the teaching of Aune would further enhance the resource

management mechanism of Martin by releasing unused resources due to resource limitation as

being considered by Martin. In addition, it is well known in the art that no resource is unlimited,

and to free up/deallocate/release unused/no longer needed resources for other resource consumer.

49.   As to point (f), the previous office action shows concession on certain limitations on

claims 23-24, however, the examiner provided reasons for one of ordinary skill in the art to

modify the teaching of Martin, Aune, Park, Eisler and Gold to satisfy the limitations. Applicant

simply repeated the examiner's rejection and failed to argued why it <u>would not</u> have been

obvious to one of ordinary skill in the art knowing Martin, Aune, Park, Eisler and Gold to

modify Gold.

50.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The

examiner can normally be reached on 8:30am-6:00pm Monday-Thursday and alternate Friday.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

     Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                        Qing-Yuan Wu

                                        Patent Examiner

                                        Art Unit 2194

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TECHNOLOGY CENTER 2100